

**WHAT IS CLAIMED IS:**

- 1           1.     A method of manufacturing an integrated circuit, the method  
2     comprising:  
3                 providing a gate dielectric layer above a top surface of a  
4     substrate;  
5                 providing a silicon and nitrogen containing layer above the  
6     gate dielectric layer;  
7                 providing an oxide layer above the silicon and nitrogen  
8     containing layer;  
9                 selectively etching the oxide layer to form a first trench in  
10    the oxide layer;  
11                selectively etching the silicon and nitrogen containing layer  
12    to form a second trench in the silicon and nitrogen containing layer, the  
13    second trench being narrower than the first trench and being disposed  
14    below the first trench; and  
15                providing a gate conductor material in the first trench and  
16    the second trench.
- 1           2.     The method of claim 1, further comprising removing the  
2     oxide layer.
- 1           3.     The method of claim 2, further comprising:  
2                 removing portions of the silicon and nitrogen containing  
3     layer, whereby a pair of spacers remain underneath the gate conductor  
4     material in the first trench.
- 1           4.     The method of claim 3, wherein the gate conductor material  
2     is removed by a polishing process.

1           5.     The method of claim 3, wherein the silicon and nitrogen  
2     containing layer includes silicon rich nitride.

1           6.     The method of claim 1, wherein the selective etching the  
2     silicon and nitrogen containing layer includes a RELACS process.

1           7.     The method of claim 1, wherein the silicon and nitrogen  
2     containing layer includes SiON or silicon rich nitride.

1           8.     The method of claim 7, wherein the silicon and nitrogen  
2     containing layer is a silicon rich nitride layer.

1           9.     The method of claim 1, wherein a width of the first trench is  
2     at least 250 Å and less than 1600 Å.

1           10.    The method of claim 9, wherein the width of the second  
2     trench is at least 400 Å and less than 2100 Å.

1           11.    A method of manufacturing an ultra-large scale integrated  
2     circuit including a transistor with a T-shaped gate conductor, the method  
3     includes steps of:

4                 providing a first layer above a substrate, the first layer being  
5     a silicon rich nitride layer or a silicon oxynitride layer;

6                 providing an oxide layer over the first layer;

7                 forming a first trench in the oxide layer;

8                 forming a second trench in the first layer, the second trench  
9     having a smaller width than the first trench; and

10                providing a gate conductor material in the first trench and in  
11     the second trench to form the T-shaped gate conductor.

1           12.    The method of claim 11, further comprising removing the  
2     oxide layer.

1           13. The method of claim 12, further comprising removing  
2 portions of the first layer to leave spacers underneath the gate conductor  
3 material in the first trench, the removal process utilizing the gate  
4 conductor material as a mask.

1           14. The method of claim 13, wherein the first layer is silicon rich  
2 nitride.

1           15. A method of manufacturing a gate conductor for an  
2 integrated circuit, the method comprising:  
3               providing a first layer above a gate dielectric layer, the gate  
4 dielectric layer being above a substrate, the first layer including silicon  
5 oxynitride or silicon rich nitride;  
6               forming an aperture in the first layer utilizing a RELACS  
7 process;  
8               filling the aperture with a gate conductor material; and  
9               removing the gate conductor material above the first layer.

1           16. The method of claim 15, further comprising:  
2               providing an oxide layer above the first layer and forming an  
3 aperture in the oxide layer before forming the aperture in the first layer.

1           17. The method of claim 16, wherein the gate conductor material  
2 is doped or undoped polysilicon material.

1           18. The method of claim 17, wherein a T-shaped gate conductor  
2 is formed.

1           19. The method of claim 16, wherein the gate conductor material  
2 is also provided in the aperture in the oxide layer.

